**B. TRANSITIONING N1-2 TO PRIMARY FROM OFF/DIAGNOSTIC/STANDBY
 WHILE N1-1 IS PRIMARY**

1. <u>VERIFY MDM STATES</u>

PCS1   Node 1: C&DH: MDM N1-1

    | PRIMARY NCS MDM Node 1 |

√STATE - Primary
√MDM ID - N1-1

If N1-2 is Off, go to step 2.
If N1-2 is in Diagnostic state, go to step 3.
If N1-2 is in Standby state, go to step 5.

2. <u>IF N1-2 IS INITIALLY OFF, BRING IT TO STANDBY</u>

PCS1   Node 1: C&DH: MDM N1-2

    | SECONDARY NCS MDM Node 1 |

'RPCM_N1RS2_C'

sel RPC 13 (Nod1_2_MDM)

    | RPCM_N1RS2_C_RPC_13 Detail |

√Position - Op
 sel   Commands
 cmd Close **Execute**
√Position - Cl

Wait at least 90 seconds for MDM to start up, finish POST, and go to
 Standby State.

Go to step 4.

3. <u>IF N1-2 IS INITIALLY IN DIAGNOSTIC STATE, BRING IT TO STANDBY</u>

PCS1   Node 1: C&DH: MDM N1-2

    | SECONDARY NCS MDM Node 1 |

√Frame Count - static

PCS1   Node 1: C&DH: MDM N1-1

    | PRIMARY NCS MDM Node 1 |
 'Software Control'

sel Transmit Mode Code

    | Primary_NCS_Transmit_Mode_Code |

sel   Primary NCS Xmt Mode Code Commands
cmd   Xmt_Stat_Word_Tmplt
enter   Bus ID - 2
enter   RT Address - 5 **Execute**

√Subsystem Flag Set - X (set)

If Subsystem Flag Bit is set, N1-2 MDM is in Diagnostic State and is
  ready to accept diagnostic commands.

PCS1   Node 1: C&DH: MDM N1-1
            | PRIMARY NCS MDM Node 1 |
            'Software Control'

            sel MDM Utilities
            sel Commands

+--+
| NOTE |
| 1. Check with **MCC** for which command to send (reinit from DRAM|
| or EEPROM). |
| |
| 2. For DRAM Reinitialization |
| Startup process will execute from the UAS currently loaded in|
| DRAM. |
| No POST is performed. |
| |
| 3. For EEPROM Reinitialization |
| Reinitialize MDM from EEPROM will cause the loss of all current|
| information in the DRAM such as BST, current Bus, RT, and |
| application configuration. |
| All UAS and default Configuration Tables will be loaded from |
| EEPROM. |
| Normal POST will be performed. |
+--+

If reinitialize from DRAM
    cmd N1_2_MDM_Re_Init_MDM_DRAM **Execute**

If reinitialize from EEPROM
    cmd N1_2_MDM_Re_Init_MDM_EEPROM **Execute**

Wait 60 seconds for MDM to reinitialize.

4. VERIFY N1-2 IS IN STANDBY STATE
PCS1   Node 1: C&DH: MDM N1-2
            | SECONDARY NCS MDM Node 1 |

            √Frame Count - incrementing

            'MDM Major State:'

√MDM State - Standby
√MDM ID - N1-2


```
*****************************
*If state is not Standby     *
*                           *
*      √MCC                  *
*****************************
```

5. <u>COMMAND N1-1 TO SECONDARY (N1-2 SHOULD GO TO PRIMARY)</u>

PCS1   Node 1: C&DH: MDM N1-1

| PRIMARY NCS MDM Node 1 |

<table>
<tr><td align="center">NOTE</td></tr>
<tr><td>1. Sending the following command will cause the loss of PCS1, Early COMM, and OIU telemetry until OIU reconfiguration and PCS2 reconnection are done.

2. Possible PDI DECOM fail message.</td></tr>
</table>

'MDM Major State:'

sel   Commands
cmd N1-1_MDM_Xsitn_Second_State **Execute**
√Frame Count - static (Loss of PCS1 telemetry)

N1-2 should go to Primary in 20 seconds.

6. <u>TELEMETRY RECOVERY ON PCS2</u>

PCS2   After boot up when taskbar appears at bottom of display
           sel Arrow directly above 'PCS' logo
           sel Start/Restart PCS CDS
           sel Icon to open PCSCDS Main Control Panel Window

√Status Box is green and 'Connected' is displayed in the PCS CDS
  Main Control Panel Window

<table>
<tr><td align="center">NOTE</td></tr>
<tr><td>PCS connection to MDM is indicated by green in the Status Box and/or 'Connected' message displayed in the PCS CDS Main Control Panel Window.</td></tr>
</table>

```
    ********************************************************************   *
    *   If Status Box is not green, select 'Connect to MDM' icon       *
    *     to reconnect.                                                 *
    *   If still no joy, close all displays and all iconified items and *
    *     repeat this step.                                             *
    *                                                                   *
    *   √MCC if Status Box is still not green.                          *
    ********************************************************************   *
```

      7. <u>VERIFY N1-2 IS PRIMARY AND N1-1 IS SECONDARY</u>

PCS2   Node 1: C&DH: MDM N1-2

        | PRIMARY NCS MDM Node 1 |

√Frame Count - incrementing

'MDM Major State:'

√MDM ID - N1-2
√MDM State - Primary

PCS2   Node 1: C&DH: MDM N1-1

        | SECONDARY NCS MDM Node 1 |

√Frame Count - incrementing

'MDM Major State:'

√MDM ID - N1-1
√MDM State - Secondary

```
    **************************************************
    *If States are not correct or no N1-2 TLM    *
    *                                            *
    *     √MCC                                    *
    **************************************************
```

      1. <u>Verify MDM Heater and Shell Heater Configuration</u>

PCS2   Node 1: C&DH: MDM N1-2

        | PRIMARY NCS MDM Node 1 |

        'RPCM N1RS2 C'

        sel RPC 3
        sel Commands
      √Position - Cl

        'N1-2 Operational'

√MDM N1-2 Op Htr Availbty - Ena Ops
√MDM N1-2 Op Htr Health Stat - Operational

'N1-1 Survival'

√MDM N1-1 Surv Htr Availbty - Ena Ops
√MDM N1-1 Surv Htr Health Stat - Operational

√**MCC** for PMA 1 and Node 1 Shell Heater configuration

8. TELEMETRY RECOVERY ON EARLY COMM (GROUND ONLY)

> NOTE
> Early COMM should reconnect to N1-2 MDM on the other Orb bus automatically in about 10 seconds after N1-2 MDM becomes Primary.

Node 1: C&DH: MDM N1-2
| PRIMARY NCS MDM Node 1 |

√Frame Count - incrementing

'MDM Major State:'

√MDM ID - N1-2
√MDM State - Primary

```
*****************************************************************************
*  If Frame Count is Static after 20 seconds from the moment    *
*    N1-2 becomes Primary (no Early COMM telemetry received) *
*                                                                *
*      √MCC                                                      *
*****************************************************************************
```

9. TELEMETRY RECOVERY ON OIU

> NOTE
> Possible PDI DECOM fail message.

CRT | SM 212 OIU |

BUS 3 BC - ITEM 11 EXEC
BUS 4 RT - ITEM 14 EXEC
Change OIU N1 Physical Device to N1-2 - ITEM 18 +3 EXEC

CRT Reload OIU FORMAT 2 - ITEM 1 +2 EXEC

CRT | SM 210 NODE |

√PHY ID PRI MDM - N1-2
√STATE   - PRI
√FAIL   - blank
√FRM CTR   - incrementing